STATE OF TENNESSEE
AIR POLLUTION CONTROL BOARD
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243

OPERATING PERMIT Issued Pursuant to Tennessee Air Quality Act

Date Issued: February 17, 2016

Permit Number:
070965P

Date Expires: February 17, 2026

Issued To:
Tennessee Department of General Services
Tennessee Bureau of Investigation

Installation Address:
1791 Neals Commerce Lane
Knoxville

Installation Description:
Emergency Stationary Compression Ignition (CI)
Internal Combustion Engine (ICE)

Emission Source Reference No.
47-0021-01
NSPS Subpart IIII
NESHAP Subpart ZZZZ

The holder of this permit shall comply with the conditions contained in this permit as well as all applicable provisions of the Tennessee Air Pollution Control Regulations (TAPCR).

CONDITIONS:

1. The application that was utilized in the preparation of this permit is dated October 27, 2015, and is signed by John Hull, Deputy Commissioner, for the permitted facility. If this person terminates employment or is reassigned different duties and is no longer the responsible person to represent and bind the facility in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification shall be in writing and submitted within thirty (30) days of the change. The notification shall include the name and title of the new person assigned by the source owner or operator to represent and bind the facility in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the facility until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

   TAPCR 1200-03-09-.03(8)

(conditions continued on next page)

Michelle W. Owenby
TECHNICAL SECRETARY

No Authority is Granted by this Permit to Operate, Construct, or Maintain any Installation in Violation of any Law, Statute, Code, Ordinance, Rule, or Regulation of the State of Tennessee or any of its Political Subdivisions.

NON-TRANSFERABLE

POST AT INSTALLATION ADDRESS

2. Stationary reciprocating internal combustion engines are subject to regulation under 40 CFR part 63, subpart ZZZZ, NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES. The permittee shall meet the requirements of 40 CFR part 63, subpart ZZZZ, by meeting the requirements of 40 CFR part 60, subpart IIII. No further requirements apply for the emergency engine under 40 CFR part 63, subpart ZZZZ.

   40 CFR §63.6590(c)

3. New (manufactured after April 1, 2006) stationary compression ignition engines are subject to regulations under 40 CFR Part 60, Subpart IIII, STANDARDS OF PERFORMANCE FOR STATIONARY COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES including any and/or all applicable emission limitations, notifications, compliance options, records, reports, etc. including, but not limited to, the requirements in **Conditions 4 – 11** that follow. The permittee's emergency use engine shall achieve compliance with **Conditions 4 – 11**.

   40 CFR part 60 subpart IIII, TAPCR 1200-03-09-.03(8)

4. The permittee of 2007 model year and later emergency stationary CI ICE that are not fire pump engines with a displacement of less than 10 liters per cylinder, a maximum engine power greater than or equal to 37 KW (50 HP), and a maximum engine power less than or equal to 2,237 KW (3,000 HP) must comply with the emission standards for the same model year and maximum engine power in 40 CFR §89.112 and 40 CFR §89.113 for all pollutants beginning in model year 2007. (See Attachment 1 of this permit)

   Compliance with this requirement is assured by compliance with **Condition 8**.

   40 CFR §60.4202(a)(2) and 40 CFR §60.4205(b)

5. The permittee must operate and maintain the emergency stationary ICE and control device (if present) to achieve the emission standards as required in **Condition 4** over the entire life of the engine.

   40 CFR §60.4206

6. The permittee must use diesel fuel that meets the requirements of 40 CFR §60.4207(b) and 40 CFR §80.510(b) & (c). The diesel fuel used for this source is subject to the following per-gallon standards:

   A sulfur content of 15 parts per million (ppm) maximum and cetane index or aromatic content, as follows: a minimum cetane index of 40; or a maximum aromatic content of 35 volume percent.

   The permittee shall maintain purchase receipts, vendor certifications, material safety data sheets, or other records to demonstrate that all fuel purchased for this source meets the requirements of this condition (any fuel labeled as ultra-low sulfur non-highway diesel fuel or ultra-low sulfur highway diesel fuel meets these requirements). These records shall be made available to the Technical Secretary for inspection upon request. These records must be maintained for a period of at least (2) years from the purchase date.

   TAPCR 1200-03-10-.02(2)(a)

7. The permittee of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines must install a non-resettable hour meter.

   40 CFR §60.4209(a)

8. The permittee must comply by purchasing an engine certified to the emission standards in **Condition 4** for the same model year and maximum engine power. The permittee must do all of the following, except as provided in **Condition 10**:

(a) Install and configure the engine according to the manufacturer's emission-related specifications;
(b) Operate and maintain the emergency stationary ICE and control device (if present) according to the manufacturer's emission-related written instructions;
(c) Change only those emission-related settings that are permitted by the manufacturer; and
(d) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply.

40 CFR §60.4211(a) and (c)

9. The permittee must operate the emergency stationary ICE according to the requirements in (a) through (c) of this condition. In order for the engine to be considered an emergency stationary ICE under 40 CFR part 60 subpart IIII, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in (a) through (c) of this condition, is prohibited. If the permittee does not operate the engine according to the requirements in (a) through (c) of this condition, the engine will not be considered an emergency engine under 40 CFR part 60 subpart IIII and must meet all requirements for non-emergency engines.

(a) There is no time limit on the use of emergency stationary ICE in emergency situations.

(b) The permittee may operate the emergency stationary ICE for any combination of the purposes specified in (b)(i) through (iii) of this condition for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by (c) of this condition counts as part of the 100 hours per calendar year allowed by (b).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Technical Secretary for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(c) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in (b) of this condition. Except as provided in (c)(i) of this condition, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following, (A) through (E), are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The permittee identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the permittee.

40 CFR §60.4211(f)

10. If the stationary ICE and control device (if present) is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, or the emission-related settings are changed in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance by the following:

for < 100 HP	for 100 – 500 HP	for > 500 HP
Keep a maintenance plan and records of conducted maintenance to demonstrate compliance and, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if the permittee does not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or changes the emission-related settings in a way that is not permitted by the manufacturer, the permittee must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.	Keep a maintenance plan and records of conducted maintenance and, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. Conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after a change to emission-related settings in a way that is not permitted by the manufacturer.	Keep a maintenance plan and records of conducted maintenance and, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. Conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after a change to emission-related settings in a way that is not permitted by the manufacturer. Conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

40 CFR §60.4211(g)

11. If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the permittee is not required to submit an initial notification. Starting with the model years in table below, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the permittee must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The permittee must record the time of operation of the engine and the reason the engine was in operation during that time.

The permittee must comply with the labeling requirements in 40 CFR §60.4210(f) and the recordkeeping requirements in this condition for new emergency stationary CI ICE beginning in the following model years:

Engine power	Starting model year
19≤KW<56 (25≤HP<75)	2013
56≤KW<130 (75≤HP<175)	2012
KW≥130 (HP≥175)	2011

40 CFR §60.4214(b)

12. If the emergency stationary CI ICE has a maximum engine power more than 100 HP and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in **Condition 9(b)(ii) and (iii)** or that operates for the purposes specified in **Condition 9(c)**, the permittee must submit an annual report according to the following requirements in (a) through (c) of this condition.

(a) The report must contain the following information:

(i) Company name and address where the engine is located.
(ii) Date of the report and beginning and ending dates of the reporting period.
(iii) Engine site rating and model year.
(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.
(v) Hours operated for the purposes specified in **Condition 9(b)(ii) and (iii)**, including the date, start time, and end time for engine operation for the purposes specified in **Condition 9(b)(ii) and (iii)**.
(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in **Condition 9(b)(ii) and (iii)**.
(vii) Hours spent for operation for the purposes specified in **Condition 9(c)**, including the date, start time, and end time for engine operation for the purposes specified in **Condition 9(c)**. The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(b) The first annual report must cover the calendar year 2016 and must be submitted no later than March 31, 2017. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(c) The annual report must be submitted to the Technical Secretary at the following address:

Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, TN 37243

Or by email to: Air.Pollution.Control@tn.gov

40 CFR §60.4214(d)

13. The rated power output capacity for the internal combustion engine is 1,490 horsepower. Any increase in this capacity will require a construction permit.

    TAPCR 1200-03-09-.01(1)(d) and the application dated October 27, 2015

14. Visible emissions from this source shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period and for no more than four (4) six-minute periods in any twenty-four (24) hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).

    TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.01(1)

15. This source shall comply with all applicable state and federal air pollution regulations. This includes, but is not limited to, federal regulations published under 40 CFR 63 for sources of hazardous air pollutants and 40 CFR 60, New Source Performance Standards.

    TAPCR 1200-03-09-.03(8)

16. This source shall operate in accordance with the terms of this permit and the information submitted in the approved permit application.

    TAPCR 1200-03-09-.02(6)

17. This permit is valid only at this location.

    TAPCR 1200-03-09-.03(6)

18. The issuance of this operating permit supersedes any previously issued permit(s) for this air contaminant source.

    TAPCR 1200-03-09-.03(6)

19. The permittee shall apply for renewal of this permit not less than sixty (60) days prior to the permit's expiration date pursuant to TAPCR 1200-03-09-.02(3)(a). The renewal application shall be submitted to the Division at the address listed below or electronic pdf copy via e-mail.

East Tennessee Permit Program
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15TH Floor
Nashville, TN 37243

or

Adobe Portable Document Format (PDF)
Copy to: Air.Pollution.Control@tn.gov

(end of conditions)

The permit application gives the location of this source as 35.991755 Latitude and – 83.849624 Longitude.

Attachment 1

40 CFR §89.112 Oxides of nitrogen, carbon monoxide, hydrocarbon, and particulate matter exhaust emission standards.

(a) Exhaust emission from nonroad engines to which this subpart is applicable shall not exceed the applicable exhaust emission standards contained in Table 1, as follows:

Table 1.—Emission Standards (g/kW-hr)

Rated Power (kW)	Tier	Model Year[1]	NOx	HC	NMHC + NOx	CO	PM
kW<8	Tier 1	2000	—	—	10.5	8.0	1.0
	Tier 2	2005	—	—	7.5	8.0	0.80
8≤kW<19	Tier 1	2000	—	—	9.5	6.6	0.80
	Tier 2	2005	—	—	7.5	6.6	0.80
19≤kW<37	Tier 1	1999	—	—	9.5	5.5	0.80
	Tier 2	2004	—	—	7.5	5.5	0.60
37≤kW<75	Tier 1	1998	9.2	—	—	—	—
	Tier 2	2004	—	—	7.5	5.0	0.40
	Tier 3	2008	—	—	4.7	5.0	
75≤kW<130	Tier 1	1997	9.2	—	—	—	—
	Tier 2	2003	—	—	6.6	5.0	0.30
	Tier 3	2007	—	—	4.0	5.0	
130≤kW<225	Tier 1	1996	9.2	1.3	—	11.4	0.54
	Tier 2	2003	—	—	6.6	3.5	0.20
	Tier 3	2006	—	—	4.0	3.5	
225≤kW<450	Tier 1	1996	9.2	1.3	—	11.4	0.54
	Tier 2	2001	—	—	6.4	3.5	0.20
	Tier 3	2006	—	—	4.0	3.5	
450≤kW≤560	Tier 1	1996	9.2	1.3	—	11.4	0.54
	Tier 2	2002	—	—	6.4	3.5	0.20
	Tier 3	2006	—	—	4.0	3.5	
kW>560	Tier 1	2000	9.2	1.3	—	11.4	0.54
	Tier 2	2006	—	—	6.4	3.5	0.20

[1] The model years listed indicate the model years for which the specified tier of standards take effect.

(b) Exhaust emissions of oxides of nitrogen, carbon monoxide, hydrocarbon, and nonmethane hydrocarbon are measured using the procedures set forth in subpart E of this part.

(c) Exhaust emission of particulate matter is measured using the California Regulations for New 1996 and Later Heavy-Duty Off-Road Diesel Cycle Engines. This procedure is incorporated by reference. See §89.6.

(d) In lieu of the NO_x standards, NMHC + NO_x standards, and PM standards specified in paragraph (a) of this section, manufacturers may elect to include engine families in the averaging, banking, and trading program, the provisions of which are specified in subpart C of this part. The manufacturer must set a family emission limit (FEL) not to exceed the levels contained in Table 2. The FEL established by the manufacturer serves as the standard for that engine family. Table 2 follows:

Table 2.—Upper Limit for Family Emission Limits (g/kW-hr)

Rated Power (kW)	Tier	Model Year[1]	NOx FEL	NMHC+ NOx FEL	PM FEL
kW<8	Tier 1	2000	—	16.0	1.2
	Tier 2	2005	—	10.5	1.0
8≤kW<19	Tier 1	2000	—	16.0	1.2
	Tier 2	2005	—	9.5	0.80
19≤kW<37	Tier 1	1999	—	16.0	1.2
	Tier 2	2004	—	9.5	0.80
37≤kW<75	Tier 1	1998	14.6	—	—
	Tier 2	2004	—	11.5	1.2
	Tier 3	2008	—	7.5	
75≤kW<130	Tier 1	1997	14.6	—	—
	Tier 2	2003	—	11.5	1.2
	Tier 3	2007	—	6.6	
130≤kW<225	Tier 1	1996	14.6	—	—
	Tier 2	2003	—	10.5	0.54
	Tier 3	2006	—	6.6	
225≤kW<450	Tier 1	1996	14.6	—	—
	Tier 2	2001	—	10.5	0.54
	Tier 3	2006	—	6.4	
450≤kW≤560	Tier 1	1996	14.6	—	—
	Tier 2	2002	—	10.5	0.54
	Tier 3	2006	—	6.4	
kW>560	Tier 1	2000	14.6	—	—
	Tier 2	2006	—	10.5	0.54

[1] The model years listed indicate the model years for which the specified tier of limits take effect.

(e) Naturally aspirated nonroad engines to which this subpart is applicable shall not discharge crankcase emissions into the ambient atmosphere, unless such crankcase emissions are permanently routed into the exhaust and included in all exhaust emission measurements. This provision applies to all Tier 2 engines and later models. This provision does not apply to engines using turbochargers, pumps, blowers, or superchargers for air induction.

(f) The following paragraphs define the requirements for low-emitting Blue Sky Series engines:

(1) *Voluntary standards.* Engines may be designated "Blue Sky Series" engines by meeting the voluntary standards listed in Table 3, which apply to all certification and in-use testing, as follows:

Table 3—Voluntary Emission Standards (g/kW-hr)

Rated Brake Power (kW)	NMHC+NO_X	PM
kW<8	4.6	0.48
8≤kW<19	4.5	0.48
19≤kW<37	4.5	0.36
37≤kW<75	4.7	0.24
75≤kW<130	4.0	0.18
130≤kW≤560	4.0	0.12
kW>560	3.8	0.12

(2) *Additional standards.* Blue Sky Series engines are subject to all provisions that would otherwise apply under this part, except as specified in paragraph (f)(3) of this section.

(3) *Test procedures.* NO_x, NMHC, and PM emissions are measured using the procedures set forth in 40 CFR part 1065, in lieu of the procedures set forth in subpart E of this part. CO emissions may be measured using the procedures set forth either in 40 CFR part 1065 or in subpart E of this part. Manufacturers may use an alternate procedure to demonstrate the desired level of emission control if approved in advance by the Administrator. Engines meeting the requirements to qualify as Blue Sky Series engines must be capable of maintaining a comparable level of emission control when tested using the procedures set forth in paragraph (c) of this section and subpart E of this part. The numerical emission levels measured using the procedures from subpart E of this part may be up to 20 percent higher than those measured using the procedures from 40 CFR part 1065 and still be considered comparable.

(g) Manufacturers of engines at or above 37 kW and below 56 kW from model years 2008 through 2012 that are subject to the standards of this section under 40 CFR 1039.102 must take the following additional steps:

(1) State the applicable PM standard on the emission control information label.

(2) Add information to the emission-related installation instructions to clarify the equipment manufacturer's obligations under 40 CFR 1039.104(f).

§89.113 Smoke emission standard.

(a) Exhaust opacity from compression-ignition nonroad engines for which this subpart is applicable must not exceed:

(1) 20 percent during the acceleration mode;

(2) 15 percent during the lugging mode; and

(3) 50 percent during the peaks in either the acceleration or lugging modes.

(b) Opacity levels are to be measured and calculated as set forth in 40 CFR part 86, subpart I. Notwithstanding the provisions of 40 CFR part 86, subpart I, two-cylinder nonroad engines may be tested using an exhaust muffler that is representative of exhaust mufflers used with the engines in use.

(c) The following engines are exempt from the requirements of this section:

(1) Single-cylinder engines;

(2) Propulsion marine diesel engines; and

(3) Constant-speed engines.